

1. (Amended) An execution unit for use in a computer system for conditionally carrying out an operation defined in a computer instruction, the execution unit comprising:

35 first and second input stores for holding respective first and second operands on which an operation defined in the instruction is to be carried out, wherein each store holds a plurality of objects of a predetermined size, each object defining one of a plurality of lanes, a maximum number of lanes being determined by a smallest allowable predetermined object size;

a plurality of operators associated respectively with said lanes for carrying out an operation specified in the instruction on objects in corresponding lanes of said first and second input stores;

a destination buffer for holding the results of the operation on a lane-by-lane basis; and

selecting means for determining for each lane in dependence on stored condition values whether or not the operation is to be executed on objects in that lane;

wherein a number of stored condition values corresponds to said maximum number of lanes in each of said first and second input stores, a prior operation being operable to generate said condition values so that, when the operand have less than the maximum number of lanes, two or more condition values are set to a same value so that each individual condition value is generated regardless of a degree of packing of the first and second source operands.

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4. (Twice Amended) An execution unit according to claim 2, wherein the number of condition codes in said set corresponds to the maximum number of lanes in each of the first and second source operands.

11. (Twice Amended) A method of executing instructions on operands containing a plurality of packed objects, the method comprising:

accessing at least one source operand containing a plurality of packed objects in a plurality of lanes, each packed object having a predetermined size and defining one of said plurality of lanes, a maximum number of said lanes being determined by a smallest allowable predetermined object size;

accessing stored condition values to determine for each respective lane whether or not an operation defined in the instruction is to be implemented on that lane of the operand; and

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carrying out the operation and updating a destination operand only in those lanes for which a stored condition value indicates that the operation should be implemented;

wherein a number of stored condition values corresponds to said maximum number of lanes in said at least one input store, a prior operation being operable to set condition values so that, when the operands have less than a maximum number of lanes, two or more condition values are set to a same value so that each individual condition value is generated regardless of a degree of packing of the first and second source operands.

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Contd.

12. (Twice Amended) A method according to claim 11, wherein the stored condition values comprise a set of condition codes, held in a condition code register, and wherein the step of accessing the stored condition values comprises accessing said set of condition codes and comparing said condition codes with a test code identified in the instruction.

13. (Amended) A method according to claim 12, wherein the test code is held in a test register which is identified by an address in the instruction.

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